

ers to look for additional cases of swinging locomotion without use of the wings and feet, in both the Puerto Rican *Spindalis* and in other species.

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American Crow Caches Rabbit Kits

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ABSTRACT.—For corvids, the decision to cache is a complex behavior likely influenced by many interacting factors. On 8 April 2004, I observed an American Crow (*Corvus brachyrhynchos*) caching eastern cottontail (*Sylvilagus floridanus*) kits taken from a rabbit nest on the Missouri State University campus in Springfield, Missouri. The crow cached at least three kits and flew away with at least one other. Caches were covered with dead leaves and landscape mulch. During the ensuing 3-day period, some caches disappeared, were partially eaten, or were moved to a different nearby location. To my knowledge, this is the first documented case of caching numerous rabbit kits from a single nest, and it is one of the few documented cases of cache-moving by American Crows. *Received 29 July 2005, accepted 24 April 2006.*

Many different factors influence caching behavior in American Crows (*Corvus brachyrhynchos*), including food value, handling

time, time of day, perishability, and kleptoparasitism (Cristol 2001). American Crows are known to cache various nuts, prey (invertebrate and vertebrate), eggs, dung, and carrion items for later consumption (Phillips 1978, Conner and Williamson 1984, Kilham 1989, Verbeek and Caffrey 2002). Caches are sometimes covered with debris, substrate, or leaves (Phillips 1978, Conner and Williamson 1984, Kilham 1989).

On 8 April 2004 at approximately 17:00 CST (18° C) while walking across the Missouri State University campus in Springfield, Missouri (37° 11' N, 93° 16' W), I observed the caching behavior of an American Crow. I heard animal distress calls, which came from an almost hairless baby mammal that the crow (approximately 20–30 m away) was handling in its bill. Although this bill-manipulation period was short (~5–10 sec), it seemed to injure the animal severely and silence its distress calls. The crow was handling the prey while perched on top of a small concrete sign (~1 m tall, ~25 cm wide) on a campus lawn. I slowly approached the crow to within ~5–8 m, and it dropped to the

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ground, quickly picked up surrounding dead leaves and sticks, and placed them over the prey item (cache #1). I uncovered the cache and determined that the mammal was a rabbit kit. I re-covered the cache, leaving it in its original location, and continued to watch the crow from approximately 30–40 m away.

The crow flew ~20 m and attended a kit apparently cached earlier (cache #2) in a mulch pile under a landscape tree. The crow then moved this cache to another mulch pile about 5–10 m away, where it carefully picked up individual pieces of mulch and laid them over the cache. Subsequently, the crow pecked around within 0–2 m of the cache while picking up other bits of mulch and quickly dropping them. The crow then flew back to the concrete sign, probed into the ground with its bill, and pulled out an eastern cottontail (*Sylvilagus floridanus*) from a rabbit nest. From there, the crow flew a few meters as the kit gave distress calls; once the kit became silent, the crow cached it (cache #3) in another mulch pile by covering it with mulch and debris. Soon the crow flew back to the cottontail nest, pulled out another kit, and flew northwest beyond my view. After a few minutes, a crow flew from the southwest to the rabbit nest, pulled out another kit, and flew off in the same direction as before.

After another few minutes had passed, a crow flew to the rabbit nest again and probed the nest several times, pulling out only nesting material (dead grass). From there, it went to the first kit (cache #1), uncovered it, and began tearing up and eating the prey. At approximately 17:20, this crow flew away and no crows returned for ~5 min. I then confirmed the locations of caches #2 and #3, finding that kits in both caches were still alive and thoroughly covered with mulch. I also searched other mulch piles in the area, but found no other caches. At 18:45 the same day, the two caches were still in the same locations.

On 9 April at 11:00, I returned to the site to verify the locations of caches #2 and #3. The kits in caches #3 (closest to the cottontail nest) and #2 were gone. I scanned other nearby mulch piles and found a cached kit with a majority of

its posterior missing. This half-eaten cache was 5–10 m away from cache #2. At 14:00, the half-eaten kit was in the same location, but on 11 April, the kit remains were gone.

To my knowledge, this is the first observation of an American Crow caching eastern cottontail kits and one of the few documented observations of a cache being stored at multiple locations (cache #2). The kits were 10 cm long and may have represented valuable prey items for a crow, particularly given the cottontail litter size of four to five kits (Whitaker 1996). Similar sightings have entailed a crow in Florida that moved a cached snake (Kilham 1989) and a crow in Tennessee that cached four live gizzard shad (*Dorosoma cepedianum*) in beach sand (Phillips 1978). Also similar to my observations was that of crows on a Texas university campus caching pecans and then tearing up the nearby grass after hiding the caches (Conner and Williamson 1984). The purpose of these post-caching behaviors remains unclear; possibilities include creation of landmarks that help individuals locate their caches, or it may serve to disguise caching behavior from potential kleptoparasites. My observation illustrates some of the complexities of crow behavior, and indicates that more field studies are needed to determine factors that lead to and affect caching behavior.

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